

RECEIVED
CENTRAL FAX CENTER
JUL 09 2009

U.S. Patent Application Serial No. 10/588,499
Response to OA dated April 10, 2009

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Previously Presented): A shearing force reinforced structure comprising:
an existing reinforced concrete structure object having an inner face side and an outer face side;
a shearing force reinforced member mainly made of a wire rod, the wire rod being arranged between
the inner face side and the outer face side inside a reinforced member insertion hole formed in the existing
reinforced concrete structure object; and

a filler filled in the reinforced member insertion hole,
wherein the reinforced member insertion hole comprises a general part having an inner diameter
larger than a diameter of the wire rod, and a base end width broadening part formed at a base end of the
reinforced member insertion hole and having an inner diameter larger than the general part.

Claim 2 (Original): The shearing force reinforced structure according to claim 1, wherein a top end
width broadening part having an inner diameter larger than the general part is formed at a top end of the
reinforced member insertion hole.

Claim 3 (Original): The shearing force reinforced structure according to claim 1, wherein the
shearing force reinforced member comprises a shearing force reinforcing bar of the wire rod; and a base end

U.S. Patent Application Serial No. 10/588,499
Response to OA dated April 10, 2009

fixation member that is formed at a base end of the shearing force reinforcing bar and of which a section shape is larger than a reinforcing bar diameter of the shearing force reinforced reinforcing bar.

Claim 4 (Original): The shearing force reinforced structure according to claim 3, wherein at a top end of the shearing force reinforcing bar is formed a top end fixation member of which a section shape is larger than a reinforcing bar diameter of the shearing force reinforced reinforcing bar.

Claim 5 (Original): The shearing force reinforced structure according to claim 1, wherein an adhesion strength of the filler is not less than 60 N/mm² in a case that the wire rod is a deformed reinforcing bar.

Claim 6 (Original): The shearing force reinforced structure according to claim 1, wherein the filler is a fiber reinforced cementitious composite material where a fiber is mixed in a cementitious matrix.

Claim 7 (Original): The shearing force reinforced structure according to claim 6, wherein the fiber reinforced cementitious composite material is formed by: blending a fiber, of which a diameter is 0.05 to 0.3 mm and a length is 8 to 16 mm, by around 1 to 4% for a volume of a cementitious matrix obtained by mixing cement, an aggregate of which a maximum particle diameter is not more than 2.5 mm; a pozzolan reaction particle of which a diameter is 0.01 to 15 mm; and at least one kind of superplasticizer; and water.

U.S. Patent Application Serial No. 10/588,499
Response to OA dated April 10, 2009

Claim 8 (Withdrawn): The shearing force reinforced structure according to claim 1, wherein a fiber sheet is adhered to a surface of the reinforced concrete structure object; and the fiber sheet and the shearing force reinforced member are integrated.

Claim 9 (Withdrawn): The shearing force reinforced structure according to claim 3, wherein a fiber sheet is adhered to a surface of the reinforced concrete structure object and that of the base end fixation member, and the fiber sheet and the shearing force reinforced member are integrated.

Claim 10 (Previously Presented): A shearing force reinforced structure comprising:
an existing reinforced concrete structure object having an inner face side and an outer face side;
a first shearing force reinforced member arranged inside a first reinforced member insertion hole
and a second shearing force reinforced member arranged inside a second reinforced member insertion hole
formed in the existing reinforced concrete structure object; and
a filler filled in the first reinforced member insertion hole and the second reinforced member
insertion hole,

wherein the first shearing force reinforced member comprises a first wire rod, and a first base end fixation member formed at a base end of the first wire rod and having a width larger than a diameter of the first wire rod, at a top end of the first shearing force reinforced member is formed a first top end fixation member having a width larger than a diameter of the first wire rod, and the first base end fixation member and the first top end fixation member are arranged within the first reinforced member insertion hole between

U.S. Patent Application Serial No. 10/588,499
Response to OA dated April 10, 2009

the inner face side and the outer face side of the existing reinforced concrete structure object.

Claim 11 (Currently Amended): [[The]] A shearing force reinforced structure according to claim 10; comprising:

an existing reinforced concrete structure object having an inner face side and an outer face side;
a first shearing force reinforced member arranged inside a first reinforced member insertion hole
and a second shearing force reinforced member arranged inside a second reinforced member insertion hole
formed in the existing reinforced concrete structure object; and

a filler filled in the first reinforced member insertion hole and the second reinforced member
insertion hole,

wherein the first shearing force reinforced member comprises a first wire rod, and a first base end
fixation member formed at a base end of the first wire rod and having a width larger than a diameter of the
first wire rod, at a top end of the first shearing force reinforced member is formed a first top end fixation
member having a width larger than a diameter of the first wire rod, and the first base end fixation member
and the first top end fixation member are arranged within the first reinforced member insertion hole between
the inner face side and the outer face side of the existing reinforced concrete structure object, and

wherein the first reinforced member insertion hole comprises a first general part having an inner diameter larger than a diameter of the first wire rod, and a first base end width broadening part formed at a base end of the first reinforced member insertion hole and having an inner diameter larger than the first general part.

U.S. Patent Application Serial No. 10/588,499
Response to OA dated April 10, 2009

Claim 12 (Original): The shearing force reinforced structure according to claim 11, wherein at a top end of the first reinforced member insertion hole is formed a first top end width broadening part having an inner diameter larger than the first general part.

Claim 13 (Currently Amended): [[The]] A shearing force reinforced structure according to claim 10, comprising:

an existing reinforced concrete structure object having an inner face side and an outer face side;
a first shearing force reinforced member arranged inside a first reinforced member insertion hole
and a second shearing force reinforced member arranged inside a second reinforced member insertion hole
formed in the existing reinforced concrete structure object; and

a filler filled in the first reinforced member insertion hole and the second reinforced member
insertion hole,

wherein the first shearing force reinforced member comprises a first wire rod, and a first base end
fixation member formed at a base end of the first wire rod and having a width larger than a diameter of the
first wire rod, at a top end of the first shearing force reinforced member is formed a first top end fixation
member having a width larger than a diameter of the first wire rod, and the first base end fixation member
and the first top end fixation member are arranged within the first reinforced member insertion hole between
the inner face side and the outer face side of the existing reinforced concrete structure object.

wherein the second shearing force reinforced member comprises a second wire rod, and a second
base end fixation member formed at a base end of the second wire rod and having a width larger than a

U.S. Patent Application Serial No. 10/588,499
Response to OA dated April 10, 2009

diameter of the second wire rod, and

wherein the first base end fixation member has a width larger than that of the second base end fixation member.

Claim 14 (Canceled)

Claim 15 (Previously Presented): The shearing force reinforced structure according to claim 13, wherein at a top end of the second shearing force reinforced member is formed and a second top end fixation member having a width larger than a diameter of the second wire rod.

Claim 16 (Withdrawn): The shearing force reinforced structure according to claim 10, wherein the reinforced concrete structure object comprises a rahmen structure, and the first reinforced member insertion hole is formed at a corner of the reinforced concrete structure object.

Claim 17 (Previously Presented): The shearing force reinforced structure according to claim 10, wherein in the first base end fixation member, at a base end of the first wire rod is fixed a plate member configured with a width not less than 5 times and not more than 20 times a diameter of the first wire rod.

Claim 18 (Withdrawn): The shearing force reinforced structure according to claim 10, wherein a fiber sheet is adhered to an inner face of the reinforced concrete structure object, and the fiber sheet is

U.S. Patent Application Serial No. 10/588,499
Response to OA dated April 10, 2009

integrated with the first wire rod.

Claim 19 (Withdrawn): The shearing force reinforced structure according to claim 10, wherein a fiber sheet is adhered to an inner face of the reinforced concrete structure object, and the fiber sheet is adhered to a surface of the reinforced concrete structure object and that of the first base end fixation member of the first wire rod and is integrated.

Claim 20 (Previously Presented): A shearing force reinforced member arranged inside a reinforced member insertion hole formed in an existing reinforced concrete structure object having an inner face side and an outer face side, the member comprising:

a wire rod having a length shorter than a total length of the reinforced member insertion hole and arranged within the reinforced member insertion hole between the inner face side and the outer face side; and

a base end fixation member and a top end fixation member respectively having width sizes larger than a diameter of the wire rod and respectively fixed at a base end and top end of the wire rod

Claim 21 (Original): The shearing force reinforced member according to claim 20, wherein a width size of the top end fixation member is formed to be 120% to 250% of a diameter of the wire rod.

U.S. Patent Application Serial No. 10/588,499
Response to OA dated April 10, 2009

Claim 22 (Original): The shearing force reinforced member according to claim 20,
wherein at a top end of the wire rod a male thread member is integrally formed, and
wherein the top end fixation member is configured with a steel plate of which a shape is a circle or
a polygon, a thickness size is 80% to 120% of a diameter of the wire rod, and a width size is 200% to 300%
of the diameter of the wire rod; a female thread is formed in the steel plate; and by screwing the male thread
member of the wire rod into the female thread, the top end fixation member is fixed at the top end of the
wire rod.

Claim 23 (Original): The shearing force reinforced member according to claim 20,
wherein at a top end of the wire rod is processed a male thread, and
wherein the top end fixation member is configured with a steel plate of which a shape is a circle or
a polygon, a thickness size is 80% to 120% of a diameter of the wire rod, and a width size is 200% to 300%
of the diameter of the wire rod; a female thread is formed in the steel plate; and by screwing the male thread
of the wire rod into the female thread, the top end fixation member is fixed at the top end of the wire rod.

Claim 24 (Original): The shearing force reinforced member according to claim 20,
wherein the wire rod is configured with a thread reinforcing bar, and
wherein the top end fixation member is configured with a steel plate of which a shape is a circle or
a polygon, a thickness size is 80% to 120% of a diameter of the wire rod, and a width size is 200% to 300%
of the diameter of the wire rod; a female thread is formed in the steel plate; and by screwing the wire rod

U.S. Patent Application Serial No. 10/588,499
Response to OA dated April 10, 2009

into the female thread, the top end fixation member is fixed at a top end of the wire rod.

Claim 25 (Previously Presented): The shearing force reinforced member according to claim 20, wherein in the base end fixation member, at a base end of the wire rod is fixed a steel plate of which a shape is a circle or a polygon, a thickness size is 30% to 120% of a diameter of the wire rod, and a width size is 130% to 300% of a diameter of the wire rod.

Claim 26 (Previously Presented): The shearing force reinforced structure according to claim 10, wherein in the first base end fixation member, at a base end of the first wire rod is fixed a plate member configured with a width not less than 10 times and not more than 15 times a diameter of the first wire rod.